GAMING METHODOLOGY

Overview

- Games run under considerable time pressure
- Numerous simplifications
- Minimal time for analysis

Games Run

- Game 1a. 1981-1988. Fishery agencies meet fish needs within limited budget (b(2) mostly). Projects react. JPOD is major new Project asset.
- Game 1b. 1981- 1988. Same fish protection measures as 1a. Projects react. Significant new assets on line (10,300 cfs at Banks and in-Delta storage).

Methodology/ Qualifications

- Amount of b(2) dedicated to Federal share of WQCP derived by comparing WQCP exports with D- 1485 exports in base runs of the daily model. Costs were split 50/50 between the SWP and CVP. This procedure did not give the same results as DWRSIM. In many cases, DWRSIM projected higher CVP cost from WQCP.
- One source of this difference is likely due to the presence of JPOD in all versions of daily model. Since JPOD allows CVP to recover more easily from mandated export reductions, will tend to reduce relative impacts of WQCP and understate cost to b(2) account of WQCP.
- Another source of difference is the lack of attention to the COA in the daily model.
- On the other hand, the presence of JPOD in the base WQCP run overstates the water supply baseline and leads to underestimating the water supply improvements in the games.
- Upstream AFRP flows also met during gaming. Cost of AFRP assessed each year.
- Total available b(2) water each year = 800 kaf – CVP share of WQCP costs – upstream AFRP costs.
- For discretionary b(2) water, attempted to use DOI b(2) accounting criteria. In general:
  - Costs of upstream releases between October and January are erased when a reservoir spills.
  - B(2) credits are spent when the upstream flows are increased or exports reduced, but credits are not generated when upstream flows decline or exports increased.
  - B(2) water may be transferred and stored under a separate accounting system.
- The cost of late February/ March export reductions was divided between the b(2) account and a hypothetical water quality account. This allowed the b(2) account to provide additional protections at other times.
- Gaming assumed complete sharing between CVP and SWP systems, including San Luis storage. In some cases, spring b(2) cutbacks may have exhausted CVP storage in SLR and required borrowing SWP storage.

- Game 1b simply replicated the same biological protections as Game 1a. This was an oversimplification in that higher diversion capacity in Game 1b would have frequently forced the expenditure of b(2) credits at an accelerated rate, leading to more rapid exhaustion of the account. If Game 1b were rerun using the same accounting rules as Game 1a, biological protections would have declined, while Project deliveries would have risen.
- Many early/late Stage 1 assets were not gamed, due to time constraints or lack of project definition. Including these assets would have led to higher performance. For example:

    - Kern water purchases
    - Groundwater storage
    - Efficiency (a late Stage 1 asset).
    - Supply shifting